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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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10/552,267

10/06/2005

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EXAMINER

PELHAM, JOSEPH MOORE

ART UNIT

PAPER NUMBER

3742

MAIL DATE

DELIVERY MODE

09/19/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                                      |  |  |
|------------------------------|--------------------------------------|--|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/552,267 | <b>Applicant(s)</b><br>KAWASAKI ET AL. |  |
|                              | <b>Examiner</b><br>Joseph M. Pelham  | <b>Art Unit</b><br>3742                |  |

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3-9 and 11-26 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,4,6-9 and 11-26 is/are rejected.
- 7) ☒ Claim(s) 5 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. ____.                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/6/05,6/6/06,11/26/07</u> .                                 | 6) <input type="checkbox"/> Other: ____.                          |

***Claim Rejections - 35 USC § 112***

Claims 3-8 and 11-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 3 depends from claim 2, which has been cancelled. It will be treated on the merits as depending from claim 1.

Claim 11 depends from claim 10, which has been cancelled. It will be treated on the merits as depending from claim 9.

Claim 21, which depends from claim 11 via claim 20, recites "covering member," which lacks antecedent basis in claim 11; it recites "post covering member," which lacks antecedent basis in all of claims 1, 3, 9, and 11.

***Claim Rejections - 35 USC § 103***

Claims 9, 13-16, 18, 20, and 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Pat. 5462603 in view of JP2000-173750.

Referring to Fig. 2, col. 4, lines 10-15, and lines 62-67, US'603 discloses a support table 32 and support post 33 made of quartz, which is conventionally transparent, a cushioning member 35, element 14 is heat resistant and covers a side portion of post 33 (claim 20), elements 41, 42 are opaque and below the table, shielding the sealing member 35 from radiation emitted by the heater, and the table assembly is used in a chamber that is evacuated.

The claims differ from US'603 only in calling for the heating element to be embedded in the table, a purging gas supply opening in the table, and a quartz gas supply pipe welded to the table and post. However, JP'750 discloses an analogous heating element embedded in a quartz substrate support table. It would have been obvious to modify the heater structure of US'603 so as to be embedded in an upper portion of the table, after the manner of JP'750, to improve conductive heat transfer to the treated substrate. The examiner notes that it would have been immediately obvious to retain the opaque plates 41, 42 below the heater since their heat directing function remains necessary. Moreover, a purging gas supply opening in the table, and a quartz gas supply pipe welded to the table and post do not patentably distinguish the claimed invention from the prior art. It would have been obvious to implement a purging gas supply in the support table with a welded quartz pipe since such means have long been conventional in the art, the gas opening in the table to expedite purging of gas in immediate proximity to the workpiece, and to utilize a quartz pipe for the same process cleanliness that commends the quartz table. Regarding claim 24, clearly protection of sealing member 35 is imperative, hence placing shielding means in the support post and/or forming the post of opaque material to protect are the proximate means which immediately lend themselves to this function.

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Claims 1, 3, 4, 6-8, 12, 17, 19, 21, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over US'603 in view of JP'750, as applied to claims 9, 13-16, 18, 20, and 25 above, and further in view of US Pat. 6342691.

The claims differ substantively from US'603 in view of JP'750 only in calling for opaque upper and side surface covering members for the support table (quartz glass opaque back cover 41, 42 is already disclosed by US'603, with a space between the opaque back cover and the lower surface covering member 32a), a cover assembly that can be disassembled (claim 21), and inner and outer heating zones.

US'691 discloses, at Fig. 1, and col. 16, lines 52-67, opaque upper 130B and side 130G, 130B surface covering members for the support table,. It would have been obvious to adapt the cover member of US'691 to the device of US'603 in view of JP'750, since US'691 teaches such to "reduce heat loss and enhance uniformity" (col. 16, line 52).

A cover assembly that can be disassembled is conventional for the purpose of cleaning the chamber, and therefore obvious. Inner and outer heating zones are conventional means to enhance wafer temperature uniformity and therefore obvious.

### ***Allowable Subject Matter***

Claim 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 11 and 22 *appear to be* allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph M. Pelham whose telephone number is 571-272-4786. The examiner can normally be reached on M-F 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tu Hoang can be reached on 571-272-4780. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/Joseph M. Pelham/

Primary Examiner, Art Unit 3742

9/114/08